

IN THE CLAIMS:

Set forth below in ascending order, with status identifiers, is a complete listing of all claims currently under examination. Changes to any amended claims are indicated by strikethrough and underlining. This listing also reflects any cancellation and/or addition of claims.

Claims 1 - 36 (cancelled)

37. (currently amended) A method for purifying contaminated water comprising:

~~receiving the contaminated water;~~

~~removing monovalent components from the contaminated water with the purifying material to generate treated water, wherein the treated water includes multivalent components, and wherein the purifying material attracts both the monovalent and multivalent components;~~

~~controlling an amount of time the purifying material and the contaminated water are mixed together so as to allow preferential removal of the monovalent components; and~~

~~separating the purifying material from the treated water.~~

receiving the contaminated water, the contaminated water including a greater concentration of monovalent cations than divalent cations;

mixing the contaminated water with an ion exchange media which is more selective for the divalent cations than the monovalent cations;

removing the monovalent cations, so as to leave divalent cations in treated water by controlling the amount of time the ion exchange media and the contaminated water are mixed together;

separating the ion exchange media from the treated water;

regenerating the ion exchange media that is separated from the treated water; and
returning the regenerated ion exchange media to said mixing step.

38. (currently amended) The method of claim 37 including:

removing additional monovalent cations ~~components~~ from the ~~purifying material~~ ion exchange media before removing the monovalent cations ~~components~~ from the contaminated water.

39. (currently amended) The method of claim 37 wherein removing monovalent cations ~~components~~ from the contaminated water is carried out while transporting the contaminated water and the ~~purifying material~~ ion exchange media to a separator.

40. (currently amended) The method of claim 39 wherein transporting the contaminated water includes substantially continuous movement of the contaminated water and the ~~purifying material~~ ion exchange media to the separator.

41. (cancelled)

42. (currently amended) The method of claim 44 ~~39~~ wherein the rate of the transporting the ~~purifying material~~ ion exchange media is controlled by a continuously moving rotary valve.

43. (currently amended) The method of claim 37 wherein removing monovalent cations ~~components from the contaminated water~~ is carried out in a reaction volume, the reaction volume including a volume of a fluidized bed reactor.

44. (currently amended) The method of claim 43 further comprising reducing a contact time between the ~~purifying material~~ ion exchange media and the divalent cations ~~desirable components~~ by adjusting the reaction volume.

Claims 45- 103 (Cancelled)

104. (new) The method of claim 37, wherein removing includes controlling the amount of time the ion exchange media and the contaminated water are mixed together or controlling a ratio of the ion exchange media to the contaminated water so as to leave the divalent cations in the treated water.

105. (new) The method of claim 37, wherein removing includes controlling the amount of time the ion exchange media and the contaminated water are mixed together and controlling a ratio of the ion exchange media to the contaminated water so as to leave the divalent cations in the treated water.

106. (new) The method of claim 39, wherein the transporting includes cocurrently transporting the contaminated water and the ion exchange media to a separator.

107. (new) The method of claim 37, wherein removing monovalent cations includes removing the monovalent cations so as to leave multivalent cations.

108. (new) The method of claim 37, wherein the removing includes removing only a portion of the monovalent cations, so as to leave monovalent cations in the treated water.

109. (new) The method of claim 37, wherein the separating occurs while the ion exchange media is partially loaded.

110. (new) The method of claim 37, wherein the separating is carried out by a sieve.

111. (new) The method of claim 37, wherein the separating is carried out by a hydrocyclone.